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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,923	12/28/2001	Peter Thomas Camble	30014513-1	8030

7590 04/10/2007  
 HEWLETT-PACKARD COMPANY  
 Intellectual Property Administration  
 P.O. Box 272400  
 Fort Collins, CO 80527-2400

EXAMINER
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HOSSAIN, TANIM M

ART UNIT	PAPER NUMBER
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2145

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/10/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/032,923

Applicant(s)

CAMBLE, ET AL

Examiner

Tanim Hossain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/27/05</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

In view of the Appeal Brief filed on November 20, 2006, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over *The Gator Tape Library Family Architecture* by John Kranz (hereinafter Kranz).

As per claim 1, Kranz teaches a method for providing a peripheral device virtual functionality overlay for a data library, said method comprising: intercepting commands to a library data transfer element within a bridge disposed between a command initiator between a command initiator and said library (page 7, paragraph 2; where the QIP intercepts commands that the user intends for the data library); and executing, with said bridge, commands addressed to said data transfer element that cannot be carried out by said data transfer element (page 7, paragraphs 3-6; where the command is addressed to the Spectra library. The QIP can cause the Spectra library to behave like other devices, so that if a STK-9714 request is sent to the library, it carries out an STK-9714 command, despite it being a Spectra library generally). Kranz does not specifically teach the passing through of commands that can be carried out by said data transfer element to said data transfer element. It would have been obvious to one of ordinary skill in the art at the time of the invention to specifically disclose this limitation, as it would be expected that if a command is sent to a file system that the file system can handle, it would execute that command. As an example, if a Spectra library command was sent to the Spectra library, the command would be executed, and no change in library behavior would need to take place. As such, the inclusion of carrying out native commands by the data library would have been obvious to one of ordinary skill in the art.

As per claim 2, Kranz further teaches that the said data library is partitioned (page 4, paragraphs 2).

As per claim 3, Kranz further teaches responding to said initiator as a data transfer element capable of carrying out said command (page 7, paragraphs 2-6).

Claims 4-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kranz in view of Black (U.S. 6,842,784).

As per claim 4, Kranz teaches the method of claim 1, but does not specifically teach the comparing of a command initiator's unique host device identifier to a list of unique host device identifiers authorized to issue commands to said data transfer element. Black teaches the storage of host identifiers in a database, and verifying whether the entity seeking access is authorized to do so, by comparing the host identifier in the database (column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a specific mechanism with which to maintain system partitions, such that only the owners of the partition are allowed to do so, by comparing the initiator's host identifier with those authorized to access the partition, as taught by Black in the system of Kranz. The motivation for doing so lies in the fact that employing the method of comparing an initiator identification with authorized host identifications would prevent unauthorized users from accessing the partitioned data, for example, which would protect the integrity of the system. Both inventions are from the same field of endeavor, namely the partitioning of data libraries among users.

As per claim 5, Kranz-Black further teaches maintaining said list of unique host device identifiers in said bridge (Black: column 24, lines 11-21).

As per claims 6 and 7, Kranz-Black teaches the method of claim 4, but does not specifically teach that the unique host identifiers are fiber channel world wide names or SCSI names. It would have been obvious to one of ordinary skill in the art at the time of the invention to include the use of fiber channel world wide names and SCSI names, given that the system employs the use of fiber channel and SCSI, and having these as identifiers would allow for the system to discern which fiber channel or SCSI entity is attempting access to the library, for example.

As per claim 8, Kranz-Black further teaches determining which data transfer element in said library said command is directed to by using a look up table maintained on said bridge (Black: column 24, lines 11-21).

As per claim 9, Kranz-Black further teaches that said determining step is carried out at least in part based on a unique host device identifier associated with said initiator (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 10, Kranz-Black further teaches that said commands that cannot be carried out by said data transfer element include at least one command from the group of commands consisting of: data mover commands, error recovery commands, caching commands, error logging, diagnostic logging, error management, diagnostic management, data compression commands, data encryption commands, and provision of statistics (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 11, Kranz-Black further teaches that said initiator is a host connected to a storage area network wherein said storage area network is comprised at least in part of said data

library (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 12, Kranz-Black teaches a peripheral device virtual functionality overlay system for a partitioned data library, said overlay system comprising: a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29); and a bridge disposed between a storage area network and said partitioned data library, wherein said bridge comprises firmware that uses said lookup table to determine whether a host initiating commands directed to a data transfer element of said library is authorized to issue commands to said data transfer element, wherein said bridge firmware passes through to said data transfer element authorized commands that can be carried out by said data transfer element and wherein said bridge firmware intercepts and executes commands directed to said data transfer element that cannot be carried out by said data transfer element (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 13, Kranz-Black further teaches that said bridge responds to a host initiating a command that cannot be carried out by said data transfer element as a data transfer element capable of carrying out last said command (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

Claims 14 and 15 are rejected under Kranz-Black on the same bases as claims 6 and 7 respectively, as the instant claims disclose limitations similar to the earlier claims.

As per claim 16, Kranz-Black further teaches that an identity of said data transfer element is determined from said lookup table at least in part based on said unique host device identifier associated with said host (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

Claim 17 is rejected under Kranz-Black on the same basis as claim 10, as claim 17 discloses limitations similar to those of claim 10.

As per claim 18, Kranz-Black teaches a partitioned storage area network with an attached data library, said network comprising: a data storage array divided into partitions; said library comprising: a plurality of library partitions corresponding to said array partitions (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29); a plurality of data transfer elements each of said data transfer elements assigned to one of said library partitions (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29); a plurality of data storage element slots, each of said slots assigned to one of said library partitions; and a library controller that defines a virtual controller for each of said library partitions, said virtual controllers directing movement of data storage media to and from slots assigned to a same of said partitions and to and from data transfer elements assigned to a same of said partitions, said slots and said data transfer elements assigned to a same of said partitions (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29); and at least one bridge disposed between said array and said library, wherein said bridge passes through authorized commands that can be carried out by one of said data transfer elements to said one data transfer element and wherein said bridge intercepts commands directed to said one data transfer element that cannot be carried



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out by said one data transfer element and executes said commands that cannot be carried out by said one data transfer element (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 19, Kranz-Black further teaches that said bridge comprising a lookup table that indicates unique host device identifiers authorized to access each of said data transfer elements of said library (Black: column 24, lines 11-21).

Claims 20, 21, 22, 23, and 24 are rejected on the same bases as claims 14, 15, 16, 13, and 17 respectively, as the instant claims disclose limitations similar to those of the earlier claims.

As per claim 25, Kranz-Black further teaches that the data mover interconnectivity extends between said array and said library, via said at least one bridge, and said data mover interconnectivity is partitioned and assigned to said corresponding library and array partitions (Kranz: page 7, paragraphs 2-6; Black: column 11, lines 44-61; column 13, lines 47-65; column 14, lines 6-29).

As per claim 26, Kranz-Black further teaches that said at least one bridge is a fiber channel-to-small computer networks interface bridge (Black: column 17, lines 1-8).

### ***Response to Arguments***

Applicant's Appeal Brief filed on November 20, 2006 has fully been considered, and a new grounds of rejection has been set forth. Accordingly, finality is withdrawn.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanim Hossain whose telephone number is 571/272-3881. The examiner can normally be reached on 8:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571/272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tanim Hossain  
Patent Examiner  
Art Unit 2145

  
JASON CARDONE  
SUPERVISORY PATENT EXAMINER